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ABSTRACT

The Comprehensive School Mathematics Program (CSMP) is a program of CEMREL, Inc., one of the national educational laboratories, and was funded by the National Institute of Education (NIE). Its major purpose is the development of curriculum materials for grades kindergarten through 6. In the fall of 1973, CSMP began a longitudinal pilot study of its program. In May 1978, a questionnaire was sent to all 42 fourth-grade teachers of CSMP, and interviews were conducted with some of them. Altogether, 34 of the teachers responded to at least some of the questions, either by questionnaire or interview. The questions dealt primarily with: 1) teacher experience; 2) teacher training, 3) implementation; 4) comparisons with other mathematics groups; and 5) program evaluation. It is noted teachers were generally positive about CSMP, but major criticisms were made by a few teachers on nearly every question. (MP)

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EXTENDED PILOT TRIALS OF THE COMPREHENSIVE SCHOOL MATHEMATICS PROGRAM:

EVALUATION REPORT SERIES

Evaluation Report 5-C-1
Teacher Questionnaire and Interview Data
Fourth Grade

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Extended Pilot Trial of the Comprehensive School Mathematics Program

Evaluation Report 5-C-1

Teacher Questionnaire and Interview Data

Fourth Grade

Ava Small
Martin Herbert

October, 1978

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Description of Evaluation Report Series

The Comprehensive School Mathematics Program (CSMP) is a program of CEMREL, Inc., one of the national educational laboratories, and is funded by the National Institute of Education. Its major purpose is the development of curriculum materials for grades K-6.

Beginning in September, 1973, CSMP began an extended pilot trial of its Elementary Program. The pilot trial is longitudinal in nature; students who began using CSMP materials in kindergarten or first grade in 1973-74, were able to use them in first and second grades respectively in 1974-75, and so on in subsequent years. Hence the adjective "extended".

The evaluation of the program in this extended pilot trial is intended to be reasonably comprehensive and to supply information desired by a wide variety of audiences. For that reason the reports in this series are reasonably non-technical and do not attempt to widely explore some of the related research issues. The list of reports from the first two years of the extended pilot trial is given on the next page. The most comprehensive of these are the following:

1-A-1:	Overview, Design and Instrumentation
1-A-3:	Final Summary Report, Year 1
2-A-1:	Final Summary Report, Year 2
3-B-1:	Summary of Second and Third Grade Test Data Year 3
4-A-1:	Final Summary Report, Year 4
and 5-A-1:	Summary Data Through Year 5

Longitudinal Pilot Study of the
Comprehensive School Mathematics Program

Evaluation Report Series

Evaluation Report 1-A-1	Overview, Design and Instrumentation
Evaluation Report 1-A-2	External Review of CSMP Materials
Evaluation Report 1-A-3	Final Summary Report Year 1
Evaluation Report 1-B-1	Mid-Year Test Data: CSMP First Grade Content
Evaluation Report 1-B-2	End-of-Year Test Data: CSMP First Grade Content
Evaluation Report 1-B-3	End-of-Year Test Data: Standard First Grade Content
Evaluation Report 1-B-4	End-of-Year Test Data: CSMP Kindergarten Content
Evaluation Report 1-B-5	Test Data on Some General Cognitive Skills Related to CSMP Content
Evaluation Report 1-B-6	Summary Test Data: Detroit Schools
Evaluation Report 1-C-1	Teacher Training Report
Evaluation Report 1-C-2	Observations of CSMP First Grade Classes
Evaluation Report 1-C-3	Mid-Year Data from Teacher Questionnaires
Evaluation Report 1-C-4	End-of-Year Data from Teacher Questionnaires
Evaluation Report 1-C-5	Interviews with CSMP Kindergarten Teachers
Evaluation Report 1-C-6	Analysis of Teacher Logs
Evaluation Report 2-A-1	Final Summary Report Year 2
Evaluation Report 2-B-1	Second Grade Test Data
Evaluation Report 2-B-2	Readministration of First Grade Test Items
Evaluation Report 2-B-3	Student Interviews
Evaluation Report 2-C-1	Teacher Questionnaire Data
Evaluation Report 2-C-2	Teacher Interviews, Second Grade
Evaluation Report 2-C-3	Teacher Interviews, First Grade
Evaluation Report 3-B-1	Second and Third Grade Test Data Year 3
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Evaluation Report 4-A-1	Final Summary Report Year 4
Evaluation Report 4-B-1	Standardized Test Data, Third Grade
Evaluation Report 4-B-2	Mathematics Applied to Novel Situations (MANS) Test Data
Evaluation Report 4-B-3	Individually Administered Problems, Third Grade
Evaluation Report 4-C-1	Teacher Questionnaire Data, Third Grade
Evaluation Report 5-A-1	Summary Data Through Year 5
Evaluation Report 5-B-1	Fourth Grade MANS Test Data
Evaluation Report 5-B-2	Individually Administered Problems, Fourth Grade
Evaluation Report 5-C-1	Teacher Questionnaire and Interview Data, Fourth Grade

Key to Indexing

Evaluation Reports are labelled m-X-n,

where m is the year of the pilot study, with 1973-74 as Year 1.
X is the type of data being reported where A is for overviews and summaries, B is for student outcomes and C is for other data.
n is the number within a given year and type of data.

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Introduction

In the fall of 1973, the Comprehensive School Mathematics Program (CSMP) began a longitudinal pilot study of its Elementary School Program. Over 100 teachers began using the program, either in first grade or kindergarten. In subsequent years some of these classes continued with CSMP materials in the next grade levels, and many new classes began using CSMP materials. The 1977-78 school year constituted the first of two years of the Extended Pilot Trial of CSMP fourth grade materials.

In May, 1977 a questionnaire was sent to all fourth grade teachers of CSMP (42 in all). In addition, interviews were conducted with a number of those teachers. This report summarizes the teacher responses to these questionnaires and interviews.

Setting

Altogether in 1977-78, there were 48 fourth grade CSMP classes taught by 42 teachers. Twenty-two of these teachers taught in either the St. Louis region or in one of two districts in which a site visit was carried out. With these teachers, an interview was conducted by a member of the CSMP Evaluation staff. The interview was conducted at the end of the school year (slightly earlier at the non-St. Louis sites) and generally lasted about 20-30 minutes. Later these teachers were given a 3-page questionnaire to complete.

Those teachers outside the St. Louis area, and where it was not possible to conduct interviews, were sent a 6-page questionnaire. The first three pages contained the same set of questions as was asked during the interviews; the last three pages were the same as those sent to the interviewed teachers. Thus all teachers responded to the same set questions, though in the interview situations, teachers gave longer answers, and the interviewer was able to ask for clarification or amplification of any given response.

Out of the 42 fourth grade teachers, 29 were teaching classes which had studied CSMP in previous years ("veteran" classes) while the other 13 were teaching classes new to CSMP ("entry" classes). The veteran classes studied the regular fourth grade program, CSMP Mathematics for the Intermediate Grades, Parts 1 and 2, while the entry classes studied a special one-semester Entry Module, followed by Mathematics for the Intermediate Grades, Part I.

Table 1 shows the number of teachers of veteran/entry classes and whether they were a) interviewed (and sent an abbreviated questionnaire) or b) not interviewed (but sent the full 6-page questionnaire). Also shown in parenthesis is the number in each group who returned the questionnaire. The overall rate of return of the questionnaires was 62% and was fairly consistent for each group. Altogether 34 of the 42 teachers (81%) were either interviewed or returned the questionnaire (or both).

Table 1

Number of Teachers Interviewed/Sent Questionnaires

	Interviewed and Sent Abbreviated Questionnaire (number returned)	Not Interviewed and Sent Full Questionnaire (number returned)
Teachers of Regular Classes (n=29)	10 (7)	19 (11)
Teachers of Entry Classes (n=13)	12 (7)	1 (1)

Responses to Questions

This chapter summarizes the responses to the questions. For each question, all the responses have been combined to produce summary data regardless of whether a) the question was asked in an interview or questionnaire format and b) the teacher taught a veteran or an entry class. Where the responses of the latter two groups of teachers differed appreciably, this difference will be drawn to the reader's attention.

The maximum possible number of responses is 34, since 34 teachers were either interviewed or returned the questionnaire. However, generally the actual number of responses was smaller because a) 8 of the 22 teachers who were interviewed did not return the abbreviated questionnaire, b) the interview with the entry teachers contained slightly less detailed questions on some topics (see Appendix A) and c) questionnaire items were occasionally left blank.

Questions dealt with five main issues:

- teacher experience
- teacher training
- implementation
- comparisons with other math programs
- evaluation of program

Each of these issues is covered in a separate section, at the end of which various comments are made, including a note of questions which elicited different responses from teachers of entry and veteran teachers. Immediately following each question the total number of responses to the question is given in parentheses (n=x). Circled entries then give the number of teachers responding in various ways.

Teacher Experience

At what grade levels have you taught math before this year? (n=21)

(18) had taught 4th grade before this year; (10 of these 18 had also taught other grades.)

(11) had taught grades lower than 4th grade.

(7) had taught grades higher than 4th grade.

If you have taught 4th grade previously, what math text did you use? (n=18)

Addison-Wesley: (9)
Silver-Burdett: (4)
Houghton-Mifflin: (2)
Ginn: (1)
Individualized system: (2)

Have you taught CSMP before this year? (n=33)

Yes: (19) No: (14)

If yes, what grades:

4th grade: (13)
3rd and 4th grade: (3)
2nd grade: (2)
1st grade: (3)
Kindergarten: (1)

Comments: The first two questions were asked only of teachers of veteran classes.

Teacher Training

How many hours of CSMP training ("contact" hours) did you receive before beginning to teach CSMP? (n=29)

1 CEMREL workshop: (11)
More than 1 CEMREL workshop: (6)
20-30 hours: (7)
10-20 hours: (2)
10 hours: (2)
none: (1)

How many hours of training did you receive during the school year? (n=32)

None: (19)
2-8 hours: (4)
10-20 hours: (8)
30 hours: (1) (this teacher had no prior training)
Watched class taught by developers last year: (1)

Do you feel you were adequately prepared for teaching CSMP? (n=29)

Yes: (24) No: (4) Not until I started teaching: (1)

Do you think most CSMP teachers could do an adequate job of teaching CSMP? (n=29)

Yes, with training: (15)
Yes, but only if they had the right attitude: (7)
Yes, but only if they had bright students: (3)
Yes, but only if they're good at math: (1)
No: (3)

Teacher Training (con't)

About how many hours of training would they need before beginning?

Same as I had: (11)
More than I had: (4)

Comments about training?

At least adequate: (11)
Not adequate: (2)
Didn't think it was adequate at first, but saw it was when she taught class: (3)
Made suggestion: (5) (see Appendix B)

Comments: There were no real differences between the responses of veteran and entry class teachers on the above questions dealing with training.

It can be seen that most teachers received at least 20 hours of training before the school year began (the recommended amount is 30 hours) and that most but not all of the teachers seemed satisfied with the training they received.

Implementation

How many minutes per day are devoted to math for your CSMP classes? (n=32)

60 minutes: (15)	46-59 minutes: (6)	40-45 minutes: (11)

How many minutes per day were previously devoted to math (pre-CSMP)? (n=19)

60 minutes: (4)	46-59 minutes: (4)	40-45 minutes: (10)	40 minutes: (1)

How far in the schedule will you get by the end of the year? (n=33)

Finished: (9)
76-95% completed: (11)
75% completed: (3)
55-65% completed: (6)
50% completed: (4)

What changes if any have you made in the schedule? (n=26)

Omitted lessons: (11)
Repeated or extended lessons: (9)
Other: (6)

Implementation (con't)

How often do you use supplementary materials? (n=25)

Everyday: (4) 2-3 times a week: (8) Once a week: (8)
Every other week: (2) On adjustment days: (1) Never: (2)

Are these primarily:

some other math text? (10)
commercial worksheets? (10)
teacher made worksheets? (19)
other? board work: (4) games: (2) other: (4)

Covering what topics?

Basic facts: (24)
Division: (7)
Multiplication: (3)
Word problems: (4)
Fractions: (5)
Other: (3)

What percent of math time is used for this supplementary work? (n=20)

10%: (8)
20%: (6)
30%: (2)
30-49%: (1)
50%: (1)
51-74%: (2)

Of these, 8 specified that this supplementary time was completely separate from and in addition to their regularly scheduled CSMP time.

(One teacher stopped teaching CSMP 2 months before the end of school)

Comments: Entry classes reportedly spent more time in math instruction than veteran classes, and more of this time was devoted to supplementary work.

For 19 teachers it was possible to compare the time spent on math pre-CSMP versus time spent on CSMP. For 12 of the 19, more time was spent with CSMP, and for the other 7 the time was the same.

Comparisons with other Math Programs

Compared to previous mathematics programs you have used, how does CSMP compare on the following items:

a) Time required for daily preparation is (n=27)

(less)	(about the same)	(more at first but about the same after a year's experience)	(more at first and continues to be after a year's experience)
5	1	14	7

b) Student interest and involvement with CSMP is (n=27)

(far less)	(a little less)	(about the same)	(a little more)	(far more)
0	2	4	9	1	11

c) Students' overall achievement of the usual math skills and concepts with CSMP is: (n=15)*

(far less)	(a little less)	(about the same)	(a little more)	(far more)
0	2	4	7	2

d) Students' ability to do logical reasoning with CSMP is: (n=25)

(far less)	(a little less)	(about the same)	(a little more)	(far more)
0	0	0	8	17

e) Students' facility in solving word problems with CSMP is: (n=21)

(far less)	(a little less)	(about the same)	(a little more)	(far more)
0	2	4	10	5

f) Overall quaility of CSMP is: (n=21)

(much lower)	(slightly lower)	(about the same)	(slightly higher)	(much higher)
0	1	1	10	2	7

g) The appropriateness of CSMP for low ability students is: (n=26)

(much lower)	(slightly lower)	(about the same)	(slightly higher)	(much higher)
7	5	8	4	2

*These are the responses of the 15 teachers who answered the question as written. Nine of the 24 teachers responding to this question differentiated between skills and concepts: all 9 rated skills lower and concepts higher. Their responses are given below:

Students' overall achievement of the usual math skills with CSMP is

(far less)	(a little less)	(about the same)	(a little more)	(far more)
1	5	3	1	0

Students' overall achievement of the usual math concepts with CSMP is

(far less)	(a little less)	(about the same)	(a little more)	(far more)
0	1	1	4	4

Comparisons with other Math Programs (con't)

Do you find that CSMP requires more or less time in teacher led work with the whole class than other math programs you have used? (n=31)

More: (22)	Less: (1)	Same: (7)	Some lessons more/some less: (1)

Do you like this aspect of CSMP?

Yes: (14)	No: (6)*	Depends on lesson: (2)

*Most common reason: "because it leaves less time to work one to one with slow student".

Comments: When responses are coded from 1 to 5 with 1 for "far less" (or "far lower") and 5 for "far more" (or "far higher"), the mean responses for veteran and entry class teachers are very similar.for items a) to f). Teachers of veteran classes tended to rate CSMP less appropriate for low ability students but higher in overall quality than teachers of entry classes.

It should also be noted that 30% of the veteran class teachers did not like the fact that CSMP requires more time in teacher led work, while no entry class teachers responded in this manner.

It is also interesting to note that 9 teachers felt compelled to change the question in item c) in order to separate their opinions about students' achievement in skills versus concepts.

Evaluation of Program

Please list lessons which went particularly well (n=25)

Numeric Strand: Workbooks and storybooks (10), Minicomputer Golf (7)
Detective Stories (4), Other N Strand lessons (listed fewer than 4 times) (23)

Language Strand: String Game (11), Composition of Functions (4), Other (4)

Probability Strand: Other (5)

Geometry: Other (5)

Most common reasons given: Student enjoy the lessons; motivating; they get excited by the competition, easy

Please list lessons which went particularly badly (n=25)

Numeric Strand: Fractions (13), Decimals (6),
Other N Strand lessons (listed fewer than 4 times) (17)

Language Strand: Composition of Functions (5), Other (5)

Probability Strand: Same or Different (5)

Geometry Strand: Circles (8), Measuring (5), Other (2)

Most common reasons given: Assumed prior knowledge, students confused; too many concepts in one lesson; seems pointless to students and/or teacher

For which of the following strands did you think there were too many lessons in the Guide? Too few lessons? (n=23)

	Too Many	Too Few	About Right
World of Numbers	0	5	18
Languages of Strings and Arrows	2	1	20
Geometry & Measurement	1	5	17
Probability and Statistics	8	2	13

Evaluation of Program (con't)

Do the workbooks tell enough for you to make evaluations of the students' progress? (n=31)

Yes: (18) No: (11) Sometimes: (2)

Should tests be built into the materials at certain places? (n=31)

Yes: (22)
No: (4)
It would be nice, but not a necessity: (3)
Just for diagnostic purposes: (2)

In the CSMP spiral approach, the teacher goes on to the next lesson in the strand, even though it may appear that not all the students may have understood the lesson.

How did this approach seem to work with your students? (n=31)

Well: (14)
So-so: (8)
Not well: (9)

In what ways, if any, did you find it necessary to deviate from CSMP's spiral apporach? (n=26)

Did not deviate: (8)
Repeated lesson or reviewed concept: (9)
Used a couple of lessons in a strand a few days in succession: (2)
Reinforced lesson with additional worksheets, etc.: (2)
Spent more time than recommended: (2)
Other: (3)

Evaluation of Program (con't)

Were there any skills that your students lacked at the beginning of the year that the fourth grade CSMP curriculum seemed to expect of them? (n=27)

No: (4) Fractions: (6) Decimals: (4) Basics: (5) Multiplication: (4)
Minicomputer skills: (3) Other: (10)

Are there any skills that your CSMP students don't have now that you think most fourth graders should have? (n=26)

No: (9) Basics: (5)
Long division with one divisor: (5) Long division with two divisors: (4)
Multiplication by two or three digits: (7) Other: (9)

Have your perceptions of CSMP changed since the beginning of the year? (n=30)

Yes, for the better: (16) (Most stated they had a better understanding for where the program is going and how it all holds together)
Yes, for the worse: (4)
No change; still positive: (10)

What do you think are the best aspects of CSMP? (n=27)

Logical thinking and problem solving: (18)
Enthusiasm and involvement of students: (11)
Spiral approach: (8)
Diverse student materials/workbooks: (6)
Stresses concepts and/or topics other than basics: (6)
Teacher outline and organization: (4)
Other: (10)

Evaluation of Program (con't)

What do you think are the worst aspects of CSMP? (n=25)

Not appropriate for slow students: (7)
Lack of evaluation (testing): (4)
Weak in computation: (4)
Worksheets/books too time-consuming and difficult to grade: (3)
Changing population (new students): (3)
Other: (18)

What is your overall evaluation of CSMP? (n=27)

Likes program: (18)
Likes it with minor reservations: (1)
Likes it with major reservations: (8)*

*of these (8) :

- should only be used one half time or as a supplement: (3)
- inappropriate for slow students: (3)
- difficulty of integrating so many new students: (1)
- inappropriate for slow students and should be used as a supplement to a more traditional program: (1)

Comments:

The number of lessons in the various strands listed as going well or badly was generally proportional to the total number of lessons in the strand, except that lessons in the Language strand seemed to generally go better and lessons in the geometry strand generally not as well as expected. Altogether there were 73 responses to "went particularly well" and 66 responses to "went particularly badly."

Teachers of entry classes, compared to teachers of veteran classes, were more likely to report that: there were too many lessons from the probability strand; the workbooks did not tell the teacher enough to make evaluations of the students' progress (though both groups of teachers thought that tests should be built into the materials); and the spiral approach did not seem to be working with their students.

The responses to best and worst aspects of CSMP, the spiral approach, and overall evaluation of CSMP have been greatly condensed in order to organize the responses. The reader may also want to scan the complete set of responses to each of these questions (see Appendix B).

Summary

In the spring of 1978, CSMP fourth grade teachers were asked a series of questions about their experiences with CSMP. Some of these teachers were teaching the regular fourth grade program to "veteran" classes; others were teaching a special entry program to classes which had no previous CSMP instruction ("entry" classes). Altogether, 34 of the total of 42 fourth grade teachers responded to at least some of these questions, either in an interview or on a questionnaire.

The summary data which follow are based on combining all responses, whether from teachers of veteran classes or of entry classes, and whether received from a questionnaire or from an interview. Many of the questions have been asked on previous questionnaires or interviews (at lower grade levels). This year's responses are generally similar, but comparative data will be shown where possible.

The data will be summarized in two sections: responses having to do with the way the program was implemented and responses having to do with teachers' judgments about the quality of the program.

Implementation of the Program

1. About half the teachers had already taught CSMP at some level.

2. Most teachers received at least 20 hours of training before beginning to teach the fourth grade materials but very little follow-up training during the year. Most teachers seemed generally satisfied with their training, although 3 or 4 were very dissatisfied.

3. Most teachers used 45-60 minutes per day in math instruction with CSMP. This was often more time, and never less time, than these teachers had spent pre-CSMP. Most thought they would get at least 3/4 of the way through the schedule, but about 1/3 of the teachers indicated that they would probably complete fewer than 2/3 of the lessons.

4. Almost all teachers supplemented to some extent, most often in basic arithmetic operations and facts and occasionally in word problems and in fractions. This supplementing was done on a regular basis (at least once a week) by 80% of the teachers and this percentage is consistent with responses from previous years (85% of third grade teachers and 62% of second grade teachers).

5. When teachers were asked whether the various strands of the guide contained too few or too many lessons, about 3/4 of the responses were "about right". A few teachers thought there should be more lessons from The World of Numbers and from Geometry and Measurement and fewer lessons from Probability and Statistics, but the proportion of such teachers was down considerably from last year's third grade teachers.

6. About 1/3 of the teachers thought that the workbooks did not tell them enough to make evaluations of students' progress and about 3/4 thought that tests should be built into the materials at certain places. This proportion is consistent with responses from previous years at earlier grade levels.

7. About half the teachers thought that daily preparation time was higher with CSMP but would be "about the same after a year's experience". The other teachers' responses were evenly divided between more time required with CSMP and less time required.

8. Very few complaints were received about the actual instructional materials (including Teacher Guides) which, in earlier grade levels, received many criticisms.

Teacher Judgments About CSMP

Teachers were generally positive in their evaluation of CSMP, but on nearly every question major criticisms were made by a few teachers.

1. CSMP was compared to previously used math program on overall quality, student interest and involvement, students' facility in solving word problems, and students' ability to do logical reasoning. Of the responses across these four items, 85% were positive or very positive and only 5% were negative or very negative.

   On the other hand, teachers were not nearly as positive when considering student achievement of the usual skills and concepts (about 1/3 of the teachers gave some negative response, particularly regarding the "skills" part of the question) and especially when considering the appropriateness of CSMP for low ability students (nearly 1/2 gave a negative response).

   In coding the responses from 1 (least postive) to 5 (most positive), teacher resonses to these questions can be compared in different grade levels and this is done in Table 2, below. The difference in Table 2 between "Year EPT" = 1 or 2 is that in the second year more teachers use CSMP and are less likely to be what might be called "lead" teachers. This may explain why EPT2 third grade teachers are less favorable to CSMP than are EPT1 third grade teachers. Fourth Grade teachers' responses this year are very similar to the responses of third grade teachers in their first year of EPT, except that fourth grade teachers rated "appropriateness for low ability students" lower and "students' logical reasoning ability" higher.

Table 2
Mean Scores by Grade/Year
for Repeated Questionnaire Items
(Kdg. - 4th Grades)

Grade Level	K		1		2		3		4
Year of EPT	1	2	1	2	1	2	1	2	1
(N)	(30)	(60)	(35)	(75)	(23)	(32)	(18)	(38)	(27)
Student Interest and Involvement	4.6	4.5	4.8	4.8	4.6	4.3	4.4	3.7	4.3
*Student Overall Achievement	4.6	4.4	4.5	4.3	4.5	3.8	3.7	3.0	3.5
Appropriateness for low ability Students	3.2	2.9	2.7	2.6	2.7	3.0	3.2	2.3	2.6
Overall quality	4.5	4.4	4.6	4.6	4.8	4.3	4.4	3.6	4.2
Students' Facility with Word Problems						3.2	3.9	2.8	3.9
Students' Logical Reasoning Ability						4.2	4.0	5.7	4.7

*It should also be noted that this item was changed from "students' overall achievement" to "students overall achievement in the usual skills and concepts" after the first year of the Second Grade Extended Pilot Test.

2. On a free-response question in which teachers were asked to give their overall evaluation of CSMP, virtually all teachers gave what might be called generally positive responses, but about 1/3 of the responses contained major reservations or qualifications.

3. On questions asking for the best and worst aspects of CSMP, 63 responses were made for "best" (with student enthusiasm and the development of logical thinking accounting for about half the entries) and 39 responses were given for "worst" (with the most popular choices being the inappropriateness for low ability students and insufficient attention to computational practice).

4. Over half the teachers said their perceptions of CSMP had changed for the better since they began teaching it (Only 4 out of 30 said their perceptions had changed for the worse.)

5. Teachers generally agreed that CSMP required more teacher-led time than usual. This was viewed as a positive feature of CSMP by 14 teachers, but as a negative feature by 6 teachers. (Third grade teachers were more evenly divided on this last year.)

6. The judgment of how well the spiral approach went was one of the two questions on the questionnaire which drew the most diverse responses (the appropriateness of CSMP for low ability students was the other question). Teachers of higher grade levels seem less sold on the spiral approach, as the table below shows, and most fourth grade teachers used one way or another of ensuring greater student understanding of a lesson, before going on in the schedule.

Table 3
"How Well Did the Spiral Approach Work With Your Students"

	Well	So-So	Not Well
Second Grade Teachers	65%	22%	13%
Third "	55%	25%	20%
Fourth " "	45%	26%	29%

Appendix A

Teacher Questionnaire

The full teacher questionnaire consisted of the six pages which follow.

For the 10 teachers of veteran classes who were interviewed, the interview consisted essentially of the first three pages. After the interview these teachers were given an abbreviated questionnaire, consisting of the last three pages, to complete and return.

For the 12 teachers of entry classes who were interviewed, the same procedure was followed except that some of the more detailed questions were not asked, in particular, those dealing with previous grades taught (Section I), number of hours of training (Section II), and number of minutes per day (Section III).

Questionnaire: Fourth Grade CSMP Teachers

I Name_____

School _____

At what grade levels have you taught math before this year? _____

If you have taught 4th grade previously, what math text did you use?

_____

Have you taught CSMP before this year? _____

If yes, what grades? _____

II How many hours of CSMP training ("contact" hours) did you receive before beginning to teach CSMP? _____

How many hours of training did you receive during the school year? _____

Do you feel you were adequately prepared for teaching CSMP?

Do you think most CSMP teachers could do an adequate job of teaching CSMP?

_____

_____

About how many hours training would they need before beginning? _____

Comments about training? _____

_____

_____

How have your perceptions of CSMP changed since the beginning of the year?

_____

_____

_____

2.

III How many minutes per day are devoted to math for your CSMP classes? _____

How many minutes per day were previously devoted to math (pre-CSMP)? _____

How often do you use supplementary materials? _____

Are these primarily: some other math text? _____

commercial worksheets? _____

teacher made worksheets? _____

other? _____

Covering what topics? _____

_____

_____

What percent of the math time is used for this supplementary work? _____

IV How far in the schedule will you get by the end of the year? _____

What changes if any have you made in the schedule:

Ommited Lessons? _____

_____

Repeated or extended lessons? _____

_____

Rearranged the sequence of the lessons? _____

_____

Other _____

_____

Did you use the supplement to Part I (the red book)? _____

V Do you find that CSMP requires more or less time in teacher led work with the whole class than other math programs you have used?

Do you like this aspect of CSMP?

VI Were there any skills that your students lacked at the beginning of the year that the fourth grade CSMP curriculum seemed to expect of them?

Are there any skills that your CSMP students don't have now that you think most fourth graders should have?

VII Do the workbooks tell you enough for you to make evaluations of the students' progress?

Should tests be built into the materials at certain places?

VIII In the CSMP spiral approach, the teacher goes on to the next lesson in the strand, even though it may appear that not all the students may have understood the lesson.

How did this approach seem to work with your students?

In what ways, if any, did you find it necessary to deviate from CSMP's spiral approach?

IX For which of the following strands did you think there were too many lessons in the Guide? Too few lessons?

	Too Many	Too Few	About Right
World of Numbers	☐	☐	☐
Languages of Strings and Arrows	☐	☐	☐
Geometry & Measurement	☐	☐	☐
Probability and Statistics	☐	☐	☐

X Compared to previous mathematics programs you have used, how does CSMP compare on the following items:

a) Time required for daily preparation is

(less) (about the same) (more at first but about the same after a year's experience) (more at first and continues to be after a year's experience)

b) Student interest and involvement with CSMP is

(far less) (a little less) (about the same) (a little more) (far more)

c) Students' overall achievement of the usual math skills and concepts with CSMP is

(far less) (a little less) (about the same) (a little more) (far more)

d) Students' ability to do logical reasoning with CSMP is

(far less) (a little less) (about the same) (a little more) (far more)

e) Students' facility in solving word problems with CSMP is

(far less) (a little less) (about the same) (a little more) (far more)

f) Overall quality of CSMP is

(much lower) (slightly lower) (about the same) (slightly higher) (much higher)

g) The appropriateness of CSMP for low ability students is

(much lower) (slightly lower) (about the same) (slightly higher) (much higher)

XI Please list lessons which went particularly badly:

Lesson	Why

Please list lessons which went particularly well:

Lesson	Why

3.

XII What do you think are the best aspects of CSMP?

XIII What do you think are the worst aspects of CSMP?

XIV What is your overall evaluation of CSMP?

Appendix B

Verbatim Responses to Open-Ended Questions

For each question, the responses are given in two groups: first the teachers of veteran classes, numbered from 1 to 21, and then the teachers of entry classes, numbered from 1 to 9. The numbering system is consistent throughout. For example, Response 5 of the veteran classes is from the same teacher for every item.

The questions are in the following order:

Comments about training (page 30)
Comments about the spiral approach (page 32)
What do you think are the best aspects of CSMP? (page 35)
What do you think are the worst aspects of CSMP? (page 38)
What is your overall evaluation of CSMP? (page 41)

Comments About Training

Veteran Classes:

1 - I thought it would be difficult to teach because I didn't feel adequately prepared, but the students were bright (first year) so it was easy. This was not the case this year.

2 - No problems with the training. I enjoy math and teaching math. (Reading and math are my favorite subjects.)

3 - When new teachers at training session learned I had taught CSMP before, they asked me how long the preparation time was. When I answered 1 hour per lesson they said they didn't have the time.

4 - It was well produced.

5 - Training was not extensive enough. Too rushed. They went through the lessons very quickly, and left me with many questions. I thought some of them would be answered as the semester went on, but I did not find this to be true. Some of my questions still were not answered.

6 - --

7 - --

8 - --

9 - Liked it - easy to understand - in fact boring at times because of repetition.

10 - The workshops were the best I have attended of any kind. Very well planned and executed - perhaps that had something to do with the people giving it as well as the material. Very enjoyable

11 - It should be very specific for each grade level, covering lessons that would need definite explanation.

12 - I thought it went well (of course I did it!)

13 - I think a beginning teacher with CSMP should work with a class as an aide while a qualified and experienced teacher teachers for 1-2 weeks.

14 - The 2 week workshop I attended was adequate for me. Those teaching a higher level may need more preparation.

15 - Difficult to grasp full understanding of CSMP through training - you have to teach it yourself.

16 - --

17 - I would suggest several sessions with teachers who have taught CSMP in levels preceding the one this person is teaching.

18 - It seems extremely lacking in substance until actually included in a lesson. Perhaps one lesson for each concept should be taught.

19 - I'm glad that I had the opportunity to attend the 2 week session. I found the program to have more meaning and loved the interaction with other teachers.

Comments About Training (continued):

20 - It was very entertaining, enlightening, and enjoyable. Our sessions were conducted as if we were students in a CSMP class. We learned quicker this way because we did sample lessons and participated.

21 - I'd like something of a macrocosmic view. Where is the whole program going? Where do functions lead? What is the rationale for the inclusion of logical relationships at the 4th grade level? How is it picked up later? How do lower grades lead up to it? Do they?

Entry Classes:

1 - --

2 - It would have been really hard without training - almost impossible. Last year I got together with other CSMP teachers but not on a regular basis but not this year.

3 - Some things you just don't know to ask until you teach it.

4 - Although you're not adequately prepared until you teach it, the first day, I thought "Oh God, why did I ever want to teach this", but the second day it was better, kind of like the spiral approach.

5 - Would have been really difficult without the workshop - also it would have been difficult without the CEMREL development people who helped with the follow-up.

6 - It helped.

7 - I felt my training was adequate. I found if I had a problem there was help always available.

(8,9) - It helped having Madame Papy coming. And the inservice that we've had during the year has helped. In some cases the way the lesson was going didn't seem to fit CSMP's own distinction of 1, 2 and 3 star workbooks.

10 - I feel it is a must for any teacher so they can feel some of the problems a child will feel entering the program.

11 - Our training was excellent - comprehensive and thorough.

12 - Training provided insights and necessary background to teach lessons effectively.

13 - --

In the CSMP spiral approach, the teacher goes on to the next lesson in the strand, even though it may appear that not all the students may have understood the lesson.

How did this approach seem to work with your students?

Veteran Classes:

1 - I think it does work. It was hard with all the new kids, but they remembered. (I'd say - "Remember this? We just did it 6 months ago." No, I didn't really say that.)

2 - No - it doesn't. They get more and more lost. There's almost always something they can do at the beginning of the next lesson, but that's it.

3 - It seems to be working - the hang-up is it's hard for the teachers to go on.

4 - Seems to work pretty good with mine - but I know other people who've ranted and raved. But we won't really know for a while how it did work. No way to measure this.

5 - It bothered me probably more than it bothered the kids. (To go on when I know they're not ready to go on.) The 4th graders are expected to know more and it's harder material. I can not assume that that learning's going to take place later. In 4th grade it becomes crucial that that learning takes place now.

6 - It worked O.K., but often if everybody did not understand the lesson I would go over it the next day. I cheated on that because if I felt it was not a success, I'd do it together with them on the board the next day (5-20 minutes time).

7 - Alright - works fine after the teacher gets used to it.

8 - --

9 - I think so - in most cases they get at least a little out of each lesson. And I don't feel the pressure so the students don't feel the pressure. I believe in the program enough. (I guess I'm lazy.)

10 - I've got my slow students who are going to be my slow students no matter what, and no matter what concept is introduced. I don't give up, but just as I'd expect something from them traditionally, I expect so much from them in CSMP. (I expect something but not comparable to what I expect from one of my higher-achievers.) I've not had an opportunity to use the Play Therapy for remedial students. I don't see how any teacher with a full load can. During the course of any given lesson, you have kids who tune in and out. They may tune in for one section out for the second and back again for the 3rd, so some of my slower students can understand some portions of the lesson.

11 - Very well, because the students were always being reminded of something covered before. It could not be put away and be forgotten.

12 - I thought it worked well - some (very few) students would not catch on but felt less pressure this way.

13 - At first I was more puzzled than the students. I felt very insecure. The children did too. Yet we had faith in the program. The results were great. The students didn't feel alarmed when they didn't understand.

14 Great!!. All of a sudden there is a "click" and the student has caught on!

Spiral Approach (con't)

15 - As a teacher, I find it difficult to allow students to continue on when the concept is not fully understood.

16 - Mine are frustrated (those who are slower).

17 - I find it hard to go on if most of the students have not understood the lesson. Sometimes I use a couple of lessons in a certain strand immediately following each other.(a couple days in succession). I find it difficult to pick up on a lesson in a particular strand if I have been away from that strand several days.

18 - Fairly well. Those absent during one lesson had a less difficult time catching on to the second lesson than I had anticipated.

19 - Some children who are accustomed to success were frustrated and we did have our moments but they could see their progress.

20 - They never complained although I feel and believe that several concepts were lost with this lack of reinforcement and continuity.

21 - The kids are usually glad to drop something they don't understand. However, they're frustrated while in the middle of it and I feel some apprehensions about dropping one concept and picking up another strand's lesson.

Entry Classes:

1 - Not this year - I don't know if it's the children or what - but I have to go back and review.

2 - Yes - had doubts about it the first year - but not this year.

3 - Well, I don't know. That's one thing I've been debating: If on beginning things it might be better to spend 2 days at a time on a topic - until they get if fixed in their mind a little better, and then try the spiral.

4 - I think so - with a little review. I think it does work, but ....it's different - it's hard to change. But I see it working.

5 - Yes, it does (work). They remembered; there was retention between the two (lessons). I think the spiral approach is the best method. They get less bored and they have more of a feeling of accomplishment; and I noticed a feeling of less apprehension. I'd tell them not to worry if they didn't get it now - we'd come back to it. At this age a lot of children really get uptight if they don't get it right away, and that can hinder their learning of new concepts.

6 - I think so - it's odd because you feel they don't get it - they're not going to understand it - (but they do).

7 - For most students, yes- for the slower students, no.

(8,9)- At the beginning it was really interesting and motivating to have something different to do each day. And the students like it. Sometimes in the supplement when they suggest reviewing things that you might not think necessary, it's really been useful.

Spiral Approach (con't)

10 - Many of my students are very frustrated after many lessons since we completed a lesson and they were unsure of what they had learned.

11 - Satisfactory - provided variety each day.

12 - It frustrated some in the beginning but gradually they realized they were not going to be tested on mastery of material.

13 - --

What do you think are the best aspects of CSMP?

Veteran Classes:

1 - Any work which requires abstract logical reasoning (unless you're working with an exceptionally good group of students).

2 - (1) Develops thinking skills
(2) String Game
(3) Introduction of negative numbers when they are needed and not avoiding them
(4) The wide variety of math activities covered not just addition, subtraction, etc.

3 - Thinking processes

4 - The spiral approach, varied strands and concepts, provides many challenging exercises, seems highly motivating.

5 - --

6 - Children learn logical mathematical thinking skills, they appear to understand math concepts better, and can do more "mental" math. CSMP uses short-cuts and "tricks" in problem solving. It also makes the process of learning math more fun.

7 - --

8 - I like the spiral; many approaches to teaching math and the fact that it's fun to teach and fun to learn.

9 - The best aspects of CSMP include its appeal to both teachers and students, and the splendid organization behind it. This organization of plans for presenting the concepts makes the teacher feel secure, knowing the students <u>are</u> getting solid mathematical concepts and thinking patterns. It's <u>amazing</u> to see what my 4th graders can do.

10-- (1) Advance concepts are presented at young age
(2) Spiral approach
(3) Diverse student materials
(4) The way lessons are broken up into sections each day
(5) Logical thinking

11 - (1) The spiral approach
(2) The teacher's manuals make planning easy and explicit
(3) The ability of my students to compute mentally
(4) The enthusiasm felt by the students during many lessons
(5) Its use of color, creativity, humor and logical thinking

12 - (1) Less teacher preparation
(2) Student interest
(3) Spiral approach
(4) Logical thinking

13 - (1) The child learns to <u>reason</u> with math problems.
(2) The workbooks on the whole are enjoyed by the students (excluding Telephone Game).

14 - (1) Student involvement
(2) Increases students' abilities in problem solving and logical thinking
(3) High Interest - motivates
(4) Manipulative devices

15 - The reasoning aspect - it does make the students think and perceive number relationships.

What do you think are the best aspects of CSMP? (con't)

16 - The children are involved actively. It provides a fun way to learn concepts.

17 - Much of the work is very interesting - both lessons and worksheets. The children are grasping mathematical concepts without realizing it is really math. Math for me should be more than computation (which is all it became with many math programs), and CSMP provides this aspect.

18 - Practical application, reasoning skills, and mental computation are noticeably improved.

19 - I love the workbooks - They are a very nice review on the basic concepts from each lesson. The Teacher's Guide is much easier to follow. I especially like the bound worksheets. I hate all those loose sheets in the 2nd and 3rd year programs. I'm a poor organizer!

20 - Children can <u>think</u> beautifully but they cannot apply it to logical situations nor can they transfer this knowledge. For example, they may know that 9 should go into 45, but they have no idea of how to arrive at the answer.

21 - Emphasis on thinking; deemphasis on rote computation and behavior. Teaching mathematics to kids who will live in an entirely different world - one automated and computerized and desperately in need of humans who will perceive clearly, analyze, synthesize, search out alternatives, weigh consequences, and above all, make logical, reasoned decisions. Hopefully the logic, intuition and reasoning skills learned in the math program will be guided by carefully thought out and evaluated human values nurtured in humanities programs.

Challenging activities: It gives me a chance to present some complex problems and tell the kids: "I really don't care if you get the right answer. What's important is that you try and keep trying, and that you try something else when one plan doesn't work, and that you think about whether your answer is reasonable or not. Finally, it's important that you listen to how others think and see if you can benefit from different ideas and methods of thinking.

<u>Entry Classes:</u>

1 - It develops logic (reasoning) and concepts.

2 - I think it's super that "concepts" part of test has improved over "computation" part - It used to be the other way around.

3 - The children learn to reason. They are able to do more "mental" work without having to write so much down. The use of negative numbers is good, as usually children do not get into negative numbers.

4 - Logical thinking - it makes them think.

5 - They think more in a mathematical way - they're more methodical. Easier to teach them how to do word problems. SRA math concepts scores went up.

6 - --

7 - The program is outlined so the teacher knows what to teach and just what to expect. Material is covered very thoroughly for the teacher's use.

What do you think are the best aspects of CSMP? (con't)

8 - There is a high interest level maintained through the tight spiral approach and through the many motivating techniques used to present concepts. A variety of ability levels is provided in the written work.

9 - (1) The program requires students to reason.
(2) It shows a variety of strands and materials.
(3) It is very enjoyable to teach since it is so motivational and creative.
(4) The program stresses in the concept development of the skills - so often otherwise overlooked.
(5) It is so highly organized.
(6) Concepts are taught and developed very subtly.

10 - The best part of the program is the varied materials presented to the children during the year. The booklets which are part of the program gave children a unique way of learning concepts in math.

11 - Spiral approach; teaching of concepts and logical thinking.

12 - Program develops logical thinking; spiral approach is a non-threatening, high interest level technique for teaching math.

13 - --

What do you think are the worst apsects of CSMP?

Veteran Classes:

1 - Minicomputer - doesn't apply to everyday use of math although it facilitates ability to think faster.

2 - There are some children who don't listen well. They have a great deal of trouble with this program.

Evaluation of children's progress.

Lazy children can avoid doing problems and it does not give them enough practice on computation and it encourages poor work habits.

The average classroom teacher does not have the time to tutor low ability students; the time necessary for them to keep up with this program.

3 - Changing population during the school year.

4 - CSMP could profit from a built in series of small quizzes evaluating whether or not the spiral apporach is working. There is not enough feedback. Those of us who must assign grades find it difficult at times.

5 - --

6 - Entrance of new students and exit of CSMP students to other programs appear to be the most serious problems of CSMP math. The spiral technique could also bother some people; was not faithful about following it - went over problems before proceeding.

7 - --

8 - Ways to convince the administration of its value. I'm very sorry to say that our adminsitration has cut the program in 4th Grade after just one year. They realize the value of the program in teaching concepts, applications, reasoning, etc. from K to 3, but feel that we must concentrate on computational skills from that point. I can't convince them that computation skills are being taught in the program. They also don't want to be out the expense of training 2 more teachers 40 hrs. each. I am more than willing to teach all three sections of math, but the other two 4th Grade teachers and the administration want us in self contained classrooms with all teachers teaching all subjects.

9 - Cost? It may be prohibitive to small private schools.

The program itself: I don't believe <u>any</u> program is THE answer for EVERY situation. CSMP included. But CSMP is as close as anything else I've ever seen!

10 - (1) No evaluation tool
(2) Being not able to fully familiarize parents with program
(3) Not being able to keep string game material together (always losing pieces)
(4) It would be nice if there could be more work that they could do <u>truly</u> independently

11 - The numerous worksheets and workbooks to correct.

12 - Lack of testing (Parental concern -not mine!)

It would be a little easier if worksheets were able to be equated to 100 points.

13 - Too many books for teachers to deal with.

What do you think are the worst aspects of CSMP? (con't)

14 - Many "slower" students struggle; however, they would struggle in any program. Also I feel that the computational skills may be weaker than any average 4th grade class; however, this is opinion only and not based on data.

15 - Very little allowance made for slow learners in math. The different level worksheets are not enough for the students who can not even grasp the basic concepts taught in the lesson. The whole lesson has to be geared down for them.

16 - It doesn't provide computational practice, which, like it or not, is used in the Jr. High and Sr. Highs. Our kids are at a disadvantage if all the emphasis is on concepts and not on computation.

17 - The children are weak in computation

Some workbooks are too long.

18 - (1) Loss of contact with traditional methods, symbols and basic techniques. Parents find it hard to relate to their child's work, can't help with homework.
(2) Worksheets and workbook pages with a multitude of possible answers! With 28 students it takes <u>forever</u> to carefully correct them. Please develop more with specific answers.
(3) Time that must be spent correcting workbooks. It has taken me a week to correct one set.
(4) Lessons that call for each student to use calculator are impractical!

19 - I wish that I could hear more from other teachers using the program. Here at _____ I feel alone on an island to either sink or swim. Our elementary education college students are introduced to the program and are delighted but in the public schools they go traditional.

20 - (1) New students to CSMP are at a total loss. There should be a special entry program developed exclusively for them.
(2) Several lessons are too long; I am unable to finish the lesson and do worksheets to see if the concepts have been captured.
(3) NO REINFORCEMENT. Due to the spiral approach, no lesson is taught consecutively. Worksheets are then returned incorrect and the teacher does not have the opportunity of explaining mistakes and as some do *, **, or *** or some never turn any in.
(4) I saw no need for several of the probability and statistics lessons.

21 - Not enough concrete foundation in fractions. Assuming kids of different developmental stages and ability levels can benefit from the same lesson and same examples and same instructional strategies and same time of instruction and reinforcement, then I think the program could be improved by making it possible for teachers to make use of lessons and materials from other levels -- especially lower levels, as I feel CSMP provides sufficient challenging concepts and activities for stronger students. How about providing a cross reference supplement that directs say, a fourth grade teacher, to lessons that build up to the current lesson from 3rd and 2nd grades? Then I could more easily adapt any lesson for use with students achieving at lower levels or needing more simplified numbers and/or concepts.

What do you think are the worst aspects of CSMP? (con't)

Entry Classes:

1 - Sometimes they get carried away with the game approach., i.e., fractions are difficult to translate from the "game" concrete form to the abstract form. Further example, "What's another name for $\frac{2}{4}$?" Most likely "caught" from diagram procedure.

2 - --

3 - The interest level of storybooks are far below fourth grade level.

I feel that in some cases it would be better to have 2 days consecutively when you start a new idea, then let the spiral approach take over. Many of the lessons are too long.

4 - I wish there were easier ways of checking. And we have to give better grades. I give numerical grades on workbooks.

5 - --

6 - --

7 - In the entry program there were 5 books to teach from and I felt I spent a lot of time trying to find the right book and the right materials. It took me approximately an hour a day to prepare for the next day. It is also bad when the teacher is out - the material can't be covered by a substitute. It is unusual for a teacher to be out as long as I was but it is possible. Maybe a short training period for the substitutes that will be regular for that year should be considered.

8 - Children with visual problems would have a difficult time with many lessons. There could be more emphasis on basic facts and the standard algorithms for computation.

9 - (1) Some procedural skills (i.e., equivalent fractions) are overlooked.
(2) The worksheets need to be checked immediately in order to progress to ** and aides are needed to assist in checking.
(3) New students need resource help to acquire necessary skills on the mini-computer and in the languages.

10 - No part of the curriculum which could help to remediate the child who greatly lacked basic 4th grade skills. Many discipline problems occurred when working in the workbooks. All the children needed help and since this program is a group (not individualized) program many could not receive help when they needed it and became very frustrated. If children also were pretested they could be placed at the appropriate level and avoid many problems when working on the wrong level in the program.

11 - The materials for individual lessons do not take into account the ability levels of low functioning children. Perhaps a book below 1 star would be appreciated.

12 - The materials for individual lessons do not take into account the ability level of low functioning children. One star books are still too difficult for this group.

13 - --

What is your overall evaluation of CSMP?

Veteran Classes:

1 - Good if students are familiar with program - but if new students are required to be a part of the program they feel lost and it takes a while for them to catch up to rest of class.

2 - Great for gifted or above average groups of children.

Even with these children it needs to be supplemented with computation practice.

3 - Excellent program

4 - I enjoy the program very much, it's stimulating, refreshing and fun to teach. Most important I think the kids learn valuable math concepts.

5 - --

6 - I feel that the CSMP program is better than any program I have previously used. I enjoy teaching the program - it is stimulating and fun. I also feel that getting the thinking skills is more important than the rote memory skill.

7 - --

8 - I love working with it and think it is a great program. I think the majority of the children enjoy it. I feel that if it were taught as written (which it is not in some of our classes) that it could accomplish the computational goals that our school system is looking for. This is the first year I've taught CSMP above 1st Grade and I've loved it. It is also the 1st year I've taught CSMP to heterogeneous groupings, and I feel that is is better than homogeneous groupings. Slow children who are ability grouped travel so slowly that they can become bored, tired and discouraged. Out of 87 fourth grade students this year, I found very few fell into this category. For me teaching the program as written to all levels at the same time worked very well. I think the program is set up fine to handle all levels together.

9 - I think it's the best curriculum offered in elementary schools today. It is well thought-out, fun to teach and learn, and the result in the kids is remarkable.

10 - Really like the program - thought provoking - something for everyone - needs supplemental drill. No program (in math) is an entity unto itself.

11 - I am very happy with this program. Before I taught CSMP my math lessons were very dry. Now I enjoy teaching math and feel my students are better in math because of this program.

12 - Outstanding.

13 - I have throughly enjoyed teaching CSMP. My students can't wait for math everyday. It is a very effective math program for average or above average students. However, I would definitely not recommend it for low ability students.

What is your overall evaluation of CSMP? (con't)

14 - I feel the program is great. I enjoy teaching it very much. I'm especially impressed with the level of "thinking' my students are able to do (problem solving and logical thinking). I also like the use of the hand calculators.

15 - I feel more positive towards it now than I did in September. Some parts the students and I thoroughly enjoy and others - we drag through. My reservation now as it was in September is the lack of appropriateness for slow students.

16 - If (as we are doing at _____) the 4, 5, and 6 grades do one-half year Cemrel and one-half year traditional, I think it is beneficial.

17 - I would not like to use it exclusively, but I would not like to teach math without it. I like the combination of two programs.

18 - Once the mechanics has been ironed out, it will make a valuable contribution. However, I honestly feel there is a strong need for basic memorization of facts in multiplication and division, or more lessons should be devised for these.

19 - Each year I feel better about the program. It is interesting when our children enter the public shcools. The teachers are amazed at their logic in math. The _____ District has not shown great interest in CSMP. They like what our kids can do, but don't seem to care how they got that way. It's sad.

20 - I think that the ideal program would be a combination of CSMP and "regular" math. Sure my students can "think" but they cannot apply because they have had no practice in it.

21 - Despite my frustrations and inadequacies which I felt very strongly this year, I think CSMP is head, shoulders and torso above traditional elementary math programs which, for the most part, spend 7 years teaching, reinforcing and evaluating computations that might better be done by calculators.

Entry Classes:

1 - Very good. Will always use some portions of CEMREL even if district does not maintain it.

(From interview: Very good - excellent - Would always incorporate it - even if we went back to traditional - especially the String Game - a lot of logic in there. I really like CEMREL and hope it'll be around for a while. It's not what you'd call an absolute or perfect program, but 85% of the materials could be used.)

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3 - I like some portions of CSMP very much.

(From interview: Part of it I like and part of it I think there might be a more efficient way of teaching it. Part of my criticism is with the spiral approach and reteaching. It would conserve time if there were 2 lessons in a row.)

4 - I think it's a good program. I enjoy teaching it. But I still feel they need some of the traditional - they don't get enough practice. You really have to be aware of everybody and it's hard when you're up here conducting the lesson. Their minds can wander.

Three go to remedial math in CSMP math.

What is your overall evaluation of CSMP? (con't)

5 - It promotes thinking - I think that's the key to all knowledge and learning. It makes children think and not do things by rote. Through the enthusiasm of the class, the kids are getting involved. The self-realization - "Hey, I can do things" - it really helped with other subjects too.

6 - Very helpful program - I still feel you do need some type of drill with it. Next year (with veteran students) I may find they don't need the drill.

7 - I enjoyed my work this year with CSMP. I felt the children learned from it. I still felt compelled to teach multiplication tables, etc. in addition to CSMP. If I were teaching next year I might not feel this necessary.

8 - I find teaching CSMP very interesting and motivating. It is refreshing to teach something the children enjoy and to see them thinking mathematically.

9 - I like it a lot! It has potential for additional teacher creativity and yet gives enough structure to feel secure. The story and workbooks make the concepts very palatable. Paperwork is somewhat overwhelming at times. The students do show mathematical thinking in their math lessons and in other subject areas.

10 - This program when greatly refined does have potential. When children are pretested and then placed at appropriate level of work I feel many will show improvement if a post test is given after one or two years.

11 - I have enjoyed working in this program. It is an interesting and seemingly effective program. A more comprehensive evaluation would probably be possible after another year of involvement.

12 - The program was an interesting, fresh approach to basic mathematical concepts. The children were always asking with enthusiasm what the lesson for that day was going to be.

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